



PROMISING ROLE OF PYRUVIC ACID PEEL IN ACNE OF DARK SKIN WHILE COMBINING WITH TOPICAL ADAPALENE AND CLINDAMYCIN

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ABSTRACT

Acne is one of the most common dermatological disease affecting 50% of adolescents. Different chemical peelings were used in local treatment either alone (or) in association with topical therapies. In this study, the pyruvic acid along with adapalene and clindamycin in mild to moderate acne because of its beneficial results when compared to topical adapalene and clindamycin alone.

Key words:

Adapalene, Clindamycin, Pyruvic acid, Mild to Moderate acne.

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INTRODUCTION

Acne in Indian scenario is entirely different from western countries. The most common skin type of Indian skin is Fitzpatrick IV-VI,^[1] which received maximum UV radiation as it is located in the tropical zone. Most of the mild to moderate cases of acne have responded well with either topical clindamycin or with combination of adapalene and clindamycin.^[2] The real problem of acne is post inflammatory pigmentation and atrophic scarring which is cosmetically disfiguring. Chemical peeling become an adjuvant in the management of acne. Variety of superficial, medium depth peels with varying concentrations have been widely studied. Starting from sour milk, lactic, glycolic, salicylic, trichloro acetic acids were showed promising results with early clearance of acne and prevention of recurrences. Hence the alternative mode of therapies like pyruvic acid peeling was introduced in our study group to assess the efficacy of pyruvic acid peel in the clearance of acne along with cosmetically appreciable amount of reduction in the pigmentation.^[3] Most of the cases of post inflammatory pigmentation was managed with triple combination of Kligman Formula^[4] to which contains steroid and the patient encounter acneiform eruption as a result of steroid abuse. Since acne is long lasting disorder which begins

with puberty, exhibits varying severity, fluctuation of course, the management will be extended with topical and systemic anti acne agents. Agents like systemic retinoids associated with the risk teratogenicity^[5]. So it needs periodic followup during the entire reproductive period by doing pregnancy test in females. This study simply compares application of topical anti-acne preparations with cosmetic peel for better outcome.

Aims and Objectives

To compare the efficacy of topical preparation of adapalene and clindamycin along with pyruvic acid peel versus topical adapalene and clindamycin management of mild to moderate acne.

MATERIALS AND METHODS

Sixty patients with mild to moderate facial acne were selected for this study after informed consent. They were divided into two groups of thirty patients each who were selected randomly. **Group A** received topical adapalene and 1% clindamycin daily along with 40% pyruvic acid peel once in two weeks for total period of 3 months. **Group B** received topical adapalene with 1% clindamycin daily without peel for a period of 3 months. One fingertip unit of adapalene was applied at night as a thin film over forehead, cheeks, chin and nose. The periorbital, para

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nasal and perioral areas were avoided. Adapalene was washed in three hours. Next morning patient was advised to apply a thin film of clindamycin which was retained till evening. For group- A, 40% pyruvic acid peel was applied in addition by the investigator under supervision which was repeated once in three weeks for twelve weeks. Usual steps were followed for peel procedure. Peel procedure was completed in 4 minutes. In these patients topical preparations were stopped two days prior and two days after peel procedure. Patients from both groups were followed up once in three weeks for up to twelve weeks. Lesions were counted and were recorded as per investigator's global evaluation scale. Local irritation scale was used for evaluation of tolerability and safety. Regular photographs were taken.

RESULTS

Results were analyzed by Chi-square test. In Group A 25 patients and in group B 20 patients completed the treatment. Three patients in group B developed local irritation to adapalene. Among 25 patients in group A, 80% showed complete clearance in 12 weeks. Global evaluation of improvement was excellent in Group A. There was a significant difference between the two groups with significant P value.



Before Peel 3rd Week of the peel 9th Week of the peel

	0 week	3 weeks	6 weeks	9 weeks	12 weeks
Group A	Grade 3	Grade 3	Grade 2	Grade 1	Grade 0
Group B	Grade 3	Grade 3	Grade 3	Grade 2	Grade 2



Pre Peel Post Peel

CONCLUSIONS

In this study we conclude that, topical adapalene, clindamycin with pyruvic acid peel combination showed an early reduction of acne lesions when compared topical adapalene and clindamycin alone. In the inflammatory lesions topical adapalene, clindamycin with pyruvic acid peel combination showed a more significant reduction of lesions and better efficacy than topical adapalene and clindamycin alone.

Non-inflammatory and total lesion count showed comparable efficacy in reduction of lesions between the two groups. In addition to reduction in acne lesion by treatment with adapalene and clindamycin, pyruvic acid peel reduces skin hyper pigmentation which helps to obtain a glowing skin.^[4] In pyruvic acid peel group, follow up of patient was regular because of its beneficial results when compared to topical adapalene and clindamycin alone. Pyruvic acid is easy to apply, which can be left for a longer time is well suited for greasy skin and for mild to moderate acne. Timely application of peels along with anti-acne preparations also decreased scar formation in such patients.^[12] We recommend pyruvic acid peel for better compliance and efficacy.

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